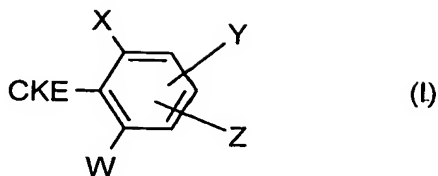


Patent claims

1. Compounds of the formula (I)



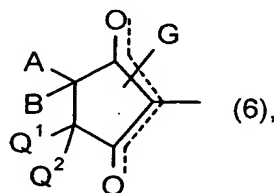
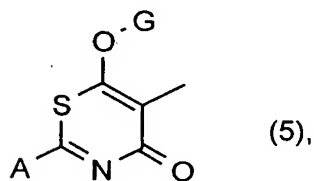
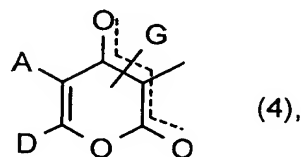
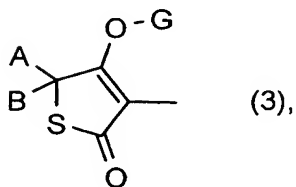
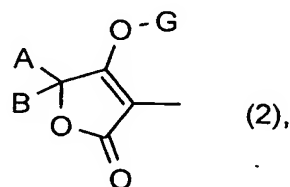
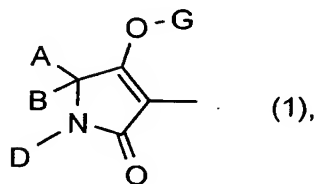
in which

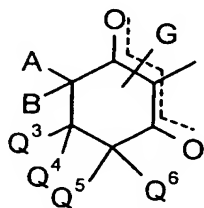
5 X represents halogen, alkyl, alkenyl, alkynyl, alkoxy, alkenyloxy, alkylthio, alkylsulphanyl, alkylsulphonyl, haloalkyl, haloalkoxy, haloalkenyloxy, nitro, cyano or in each case optionally substituted phenyl, phenoxy, phenylthio, phenylalkoxy or phenylalkylthio,

10 W and Y independently of one another represent hydrogen, halogen, alkyl, alkenyl, alkynyl, alkoxy, alkenyloxy, haloalkyl, haloalkoxy, haloalkenyloxy, nitro or cyano,

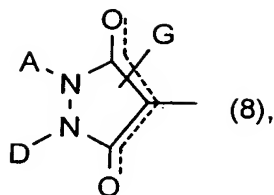
Z represents an in each case optionally saturated or unsaturated, optionally substituted heterocycle which is attached to the phenyl ring via a nitrogen atom and which may be interrupted by one or two carbonyl groups,

CKE represents one of the groups





(7) or



(8),

in which

5 A represents hydrogen, represents in each case optionally halogen-substituted alkyl, alkenyl, alkoxyalkyl, alkylthioalkyl, saturated or unsaturated, optionally substituted cycloalkyl in which optionally at least one ring atom is replaced by a heteroatom, or in each case optionally halogen-, alkyl-, haloalkyl-, alkoxy-, haloalkoxy-, cyano- or nitro-substituted aryl, arylalkyl or hetaryl,

10 B represents hydrogen, alkyl or alkoxyalkyl, or

A and B together with the carbon atom to which they are attached represent a saturated or unsaturated, unsubstituted or substituted cycle which optionally contains at least one heteroatom,

15 D represents hydrogen or represents an optionally substituted radical from the group consisting of alkyl, alkenyl, alkynyl, alkoxyalkyl, saturated or unsaturated cycloalkyl, in which optionally one or more ring members are replaced by heteroatoms, arylalkyl, aryl, hetarylalkyl or hetaryl or

20 A and D together with the atoms to which they are attached represent a saturated or unsaturated cycle which optionally contains at least one (in the case of CKE=8 further) heteroatom and which is unsubstituted or substituted in the A,D moiety, or

A and Q¹ together represent optionally halogen- or hydroxy-substituted alkanediyl or alkanediyl or alkenediyl substituted by in each case optionally substituted alkyl, alkoxy, alkylthio, cycloalkyl, benzyloxy or aryl or

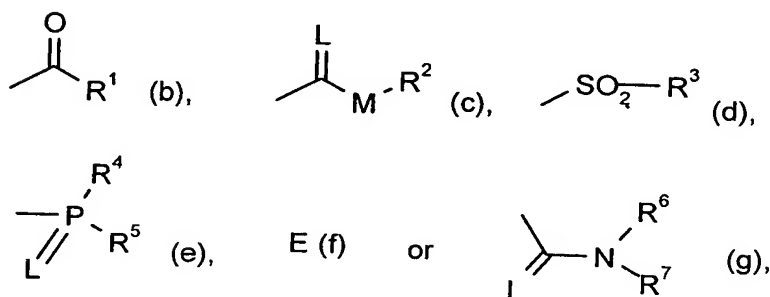
25 Q¹ represents hydrogen or alkyl,

Q², Q⁴, Q⁵ and Q⁶ independently of one another represent hydrogen or alkyl,

Q^3 represents hydrogen, in each case optionally substituted alkyl, alkoxyalkyl, alkylthioalkyl, optionally substituted cycloalkyl (in which optionally one methylene group is replaced by oxygen or sulphur) or optionally substituted phenyl, or

5 Q^3 and Q^4 together with the carbon atom to which they are attached represent a saturated or unsaturated, unsubstituted or substituted cycle which optionally contains a heteroatom,

G represents hydrogen (a) or represents one of the groups



10 in which

E represents a metal ion equivalent or an ammonium ion,

L represents oxygen or sulphur,

M represents oxygen or sulphur,

15 R^1 represents in each case optionally halogen-substituted alkyl, alkenyl, alkoxyalkyl, alkylthioalkyl, polyalkoxyalkyl or optionally halogen-, alkyl- or alkoxy-substituted cycloalkyl which may be interrupted by at least one heteroatom, in each case optionally substituted phenyl, phenylalkyl, hetaryl, phenoxyalkyl or hetaryl-oxyalkyl,

20 R^2 represents in each case optionally halogen-substituted alkyl, alkenyl, alkoxyalkyl, polyalkoxyalkyl or represents in each case optionally substituted cycloalkyl, phenyl or benzyl,

R^3 , R^4 and R^5 independently of one another represent in each case optionally halogen-substituted alkyl, alkoxy, alkylamino, dialkyl-

amino, alkylthio, alkenylthio, cycloalkylthio and represent in each case optionally substituted phenyl, benzyl, phenoxy or phenylthio,

R^6 and R^7 independently of one another represent hydrogen, in each case optionally halogen-substituted alkyl, cycloalkyl, alkenyl, alkoxy, alkoxyalkyl, represent optionally substituted phenyl, represent optionally substituted benzyl, or together with the N atom to which they are attached represent a cycle which is optionally interrupted by oxygen or sulphur.

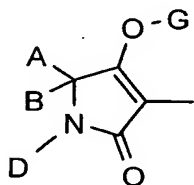
2. Compounds of the formula (I) according to Claim 1 in which

10 X represents halogen, C_1 - C_6 -alkyl, C_1 - C_6 -alkenyl, C_1 - C_6 -alkynyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy, C_3 - C_6 -alkenyloxy, C_1 - C_6 -alkylthio, C_1 - C_6 -alkylsulphanyl, C_1 - C_6 -alkylsulphonyl, C_1 - C_6 -haloalkoxy, C_3 - C_6 -haloalkenyloxy, nitro, cyano or represents phenyl, phenoxy, phenylthio, benzyloxy or benzylthio, each of which is optionally mono- or disubstituted by halogen, C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy, C_1 - C_4 -haloalkyl, C_1 - C_4 -haloalkoxy, nitro or cyano,

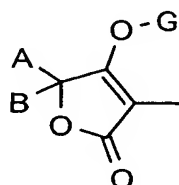
W and Y independently of one another represent hydrogen, halogen, C_1 - C_6 -alkyl, C_1 - C_6 -alkenyl, C_1 - C_6 -alkynyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, nitro or cyano,

20 Z represents optionally substituted pyrazolyl, triazolyl, tetrazolyl, pyrrolyl, indolyl, benzimidazolyl, benzpyrazolyl, benztriazolyl, pyrrolidinyl, piperidinyl, piperazinyl, morpholinyl or thiomorpholinyl which is attached via a nitrogen atom to the phenyl ring,

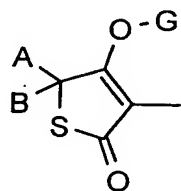
CKE represents one of the groups



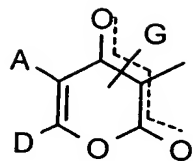
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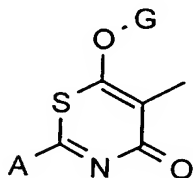
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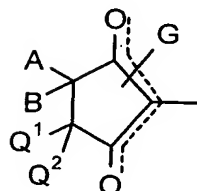
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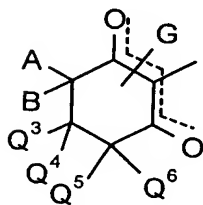
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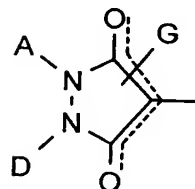
(5),



(6),



(7),



(8),

A represents hydrogen or represents C₁-C₁₂-alkyl, C₃-C₈-alkenyl, C₁-C₁₀-alkoxy-C₁-C₈-alkyl, C₁-C₁₀-alkylthio-C₁-C₆-alkyl, each of which is optionally mono- to pentasubstituted by halogen, represents C₃-C₈-cycloalkyl which is optionally mono- to trisubstituted by halogen, C₁-C₆-alkyl, C₁-C₂-haloalkyl or C₁-C₆-alkoxy and in which optionally one or two not directly adjacent ring members are replaced by oxygen and/or sulphur or represents phenyl, naphthyl, hetaryl having 5 or 6 ring atoms, phenyl-C₁-C₆-alkyl or naphthyl-C₁-C₆-alkyl, each of which is optionally mono- to trisubstituted by halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, cyano or nitro,

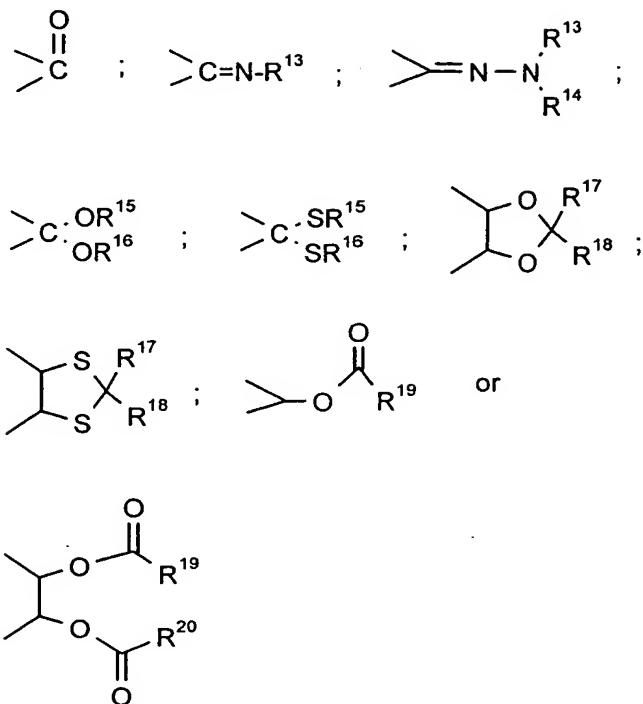
B represents hydrogen, C₁-C₁₂-alkyl or C₁-C₈-alkoxy-C₁-C₆-alkyl, or

A, B and the carbon atom to which they are attached represent saturated C₃-C₁₀-cycloalkyl or unsaturated C₅-C₁₀-cycloalkyl in which optionally one ring member is replaced by oxygen or sulphur and which are optionally mono- or disubstituted by C₁-C₈-alkyl, C₃-C₁₀-cycloalkyl, C₁-C₈-haloalkyl, C₁-C₈-alkoxy, C₁-C₈-alkylthio, halogen or phenyl or

A, B and the carbon atom to which they are attached represent C₃-C₆-cycloalkyl which is substituted by an alkylenediyl group which optionally contains one or two not directly adjacent oxygen and/or sulphur atoms and which is optionally mono- to

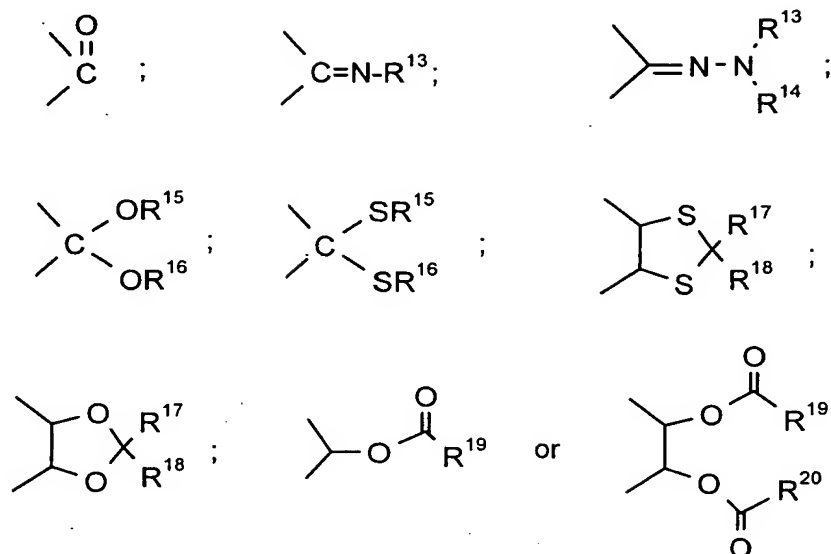
tetrasubstituted by C₁-C₄-alkyl or by an alkylenedioxy or by an alkylenedithioyl group which, together with the carbon atom to which it is attached, forms a further five- to eight-member ring or

- 5 A, B and the carbon atom to which they are attached represent C₃-C₈-cycloalkyl or C₅-C₈-cycloalkenyl in which two substituents together with the carbon atoms to which they are attached represent C₂-C₆-alkanediyl, C₂-C₆-alkenediyl or C₄-C₆-alkanediendiyl, each of which is optionally mono- to disubstituted by C₁-C₆-alkyl, C₁-C₆-alkoxy or halogen and in which optionally one methylene group is replaced by oxygen or sulphur,
- 10 D represents hydrogen, represents C₁-C₁₂-alkyl, C₃-C₈-alkenyl, C₃-C₈-alkynyl, C₁-C₁₀-alkoxy-C₁-C₈-alkyl, each of which is optionally mono- to pentasubstituted by halogen, represents C₃-C₈-cycloalkyl which is optionally mono- to trisubstituted by halogen, C₁-C₄-alkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkyl and in which optionally one ring member is replaced by oxygen or sulphur or represents phenyl,
- 15 hetaryl having 5 or 6 ring atoms, phenyl-C₁-C₆-alkyl or hetaryl-C₁-C₆-alkyl having 5 or 6 ring atoms, each of which radicals is optionally mono- to trisubstituted by halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, cyano or nitro, or
- 20 A and D together represent in each case optionally mono- or disubstituted C₃-C₆-alkanediyl or C₃-C₆-alkenediyl in which optionally one methylene group is replaced by a carbonyl group, oxygen or sulphur,
- possible substituents being in each case:
- 25 halogen, hydroxyl, mercapto or C₁-C₁₀-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₃-C₇-cycloalkyl, phenyl or benzyloxy, each of which is optionally mono- to trisubstituted by halogen, or a further C₃-C₆-alkanediyl grouping, C₃-C₆-alkenediyl grouping or butadienyl grouping which is optionally substituted by C₁-C₆-alkyl or in which optionally two adjacent substituents together with the carbon atoms to which they are attached form a further saturated or unsaturated cycle having 5 or 6 ring atoms (in the case of the compound of the formula (I-1), A and
- 30 D together with the atoms to which they are attached then represent, for example, the groups mentioned further below (AD-1 to AD-10)) which can contain oxygen or sulphur, or which optionally contains one of the following groups



or

A and Q¹ together represent C₃-C₆-alkanediyl or C₄-C₆-alkenediyl, each of which is optionally mono- or disubstituted by identical or different substituents from the group consisting of halogen, hydroxyl, of C₁-C₁₀-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₃-C₇-cycloalkyl, each of which is optionally mono- to trisubstituted by identical or different halogen, and of benzyloxy and phenyl, each of which is optionally mono- to trisubstituted by identical or different substituents from the group consisting of halogen, C₁-C₆-alkyl and C₁-C₆-alkoxy, which C₃-C₆-alkanediyl or C₄-C₆-alkenediyl moreover optionally contains one of the groups below



or is bridged by a C₁-C₇-alkanediyl group or by an oxygen atom or

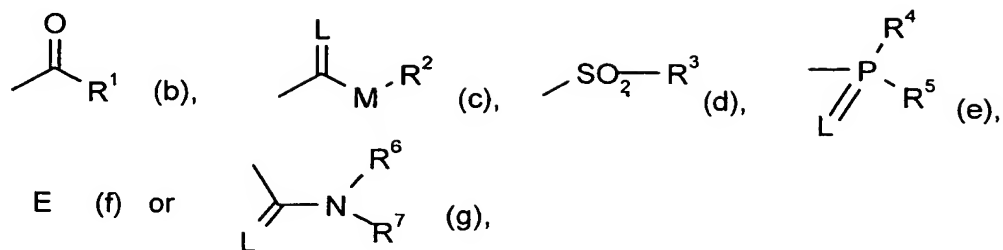
Q¹ represents hydrogen or C₁-C₄-alkyl,

5 Q², Q⁴, Q⁵ and Q⁶ independently of one another represent hydrogen or C₁-C₄-alkyl,

Q³ represents hydrogen, represents C₁-C₆-alkyl, C₁-C₆-alkoxy-C₁-C₂-alkyl, C₁-C₆-alkylthio-C₁-C₂-alkyl, each of which is optionally mono- to pentasubstituted by halogen, represents C₃-C₈-cycloalkyl which is optionally substituted by C₁-C₄-alkyl or C₁-C₄-alkoxy and in which optionally one methylene group is replaced by oxygen or sulphur or represents phenyl which is optionally mono- or disubstituted by halogen, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₂-haloalkyl, C₁-C₂-haloalkoxy, cyano or nitro, or

Q³ and Q⁴ together with the carbon atom to which they are attached represent a C₃-C₇-ring which is optionally mono- to trisubstituted by C₁-C₄-alkyl, C₁-C₄-alkoxy or C₁-C₂-haloalkyl and in which optionally one ring member is replaced by oxygen or sulphur,

G represents hydrogen (a) or represents one of the groups



in which

E represents a metal ion equivalent or an ammonium ion,

5 L represents oxygen or sulphur and

M represents oxygen or sulphur,

10 R¹ represents C₁-C₂₀-alkyl, C₂-C₂₀-alkenyl, C₁-C₈-alkoxy-C₁-C₈-alkyl, C₁-C₈-alkylthio-C₁-C₈-alkyl, poly-C₁-C₈-alkoxy-C₁-C₈-alkyl, each of which is optionally mono- to pentasubstituted by halogen, or represents C₃-C₈-cycloalkyl which is optionally mono- to trisubstituted by halogen, C₁-C₆-alkyl or C₁-C₆-alkoxy and in which optionally one or more not directly adjacent ring members are replaced by oxygen and/or sulphur,

15 represents phenyl which is optionally mono- to trisubstituted by halogen, cyano, nitro, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio or C₁-C₆-alkylsulphonyl,

represents phenyl-C₁-C₆-alkyl which is optionally mono- to trisubstituted by halogen, nitro, cyano, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl or C₁-C₆-haloalkoxy,

20 represents 5- or 6-membered hetaryl which is optionally mono- or disubstituted by halogen or C₁-C₆-alkyl,

represents phenoxy C₁-C₆-alkyl which is optionally mono- or disubstituted by halogen or C₁-C₆-alkyl or

represents 5- or 6-membered hetaryloxy C₁-C₆-alkyl which is optionally mono- or disubstituted by halogen, amino or C₁-C₆-alkyl,

R² represents C₁-C₂₀-alkyl, C₂-C₂₀-alkenyl, C₁-C₈-alkoxy-C₂-C₈-alkyl, poly-C₁-C₈-alkoxy-C₂-C₈-alkyl, each of which is optionally mono- to pentasubstituted by halogen,

5 represents C₃-C₈-cycloalkyl which is optionally mono- or disubstituted by halogen, C₁-C₆-alkyl or C₁-C₆-alkoxy or

represents phenyl or benzyl, each of which is optionally mono- to trisubstituted by halogen, cyano, nitro, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl or C₁-C₆-haloalkoxy,

10 R³ represents C₁-C₈-alkyl which is optionally mono- to nonasubstituted by halogen or represents phenyl or benzyl, each of which is optionally mono- to trisubstituted by halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, cyano or nitro,

15 R⁴ and R⁵ independently of one another represent C₁-C₈-alkyl, C₁-C₈-alkoxy, C₁-C₈-alkylamino, di-(C₁-C₈-alkyl)amino, C₁-C₈-alkylthio, C₂-C₈-alkenylthio, C₃-C₇-cycloalkylthio, each of which is optionally mono- to pentasubstituted by halogen, or represent phenyl, phenoxy or phenylthio, each of which is optionally mono- to trisubstituted by halogen, nitro, cyano, C₁-C₄-alkoxy, C₁-C₄-haloalkoxy, C₁-C₄-alkylthio, C₁-C₄-haloalkylthio, C₁-C₄-alkyl or C₁-C₄-haloalkyl,

20 R⁶ and R⁷ independently of one another represent hydrogen, represent C₁-C₈-alkyl, C₃-C₈-cycloalkyl, C₁-C₈-alkoxy, C₃-C₈-alkenyl, C₁-C₈-alkoxy-C₁-C₈-alkyl, each of which is optionally mono- to pentasubstituted by halogen, represent phenyl which is optionally mono- to trisubstituted by halogen, C₁-C₈-haloalkyl, C₁-C₈-alkyl or C₁-C₈-alkoxy, represent benzyl which is optionally mono- to trisubstituted by halogen, C₁-C₈-alkyl, C₁-C₈-haloalkyl or C₁-C₈-alkoxy or together represent a
25 C₃-C₆-alkylene radical which is optionally mono- or disubstituted by C₁-C₄-alkyl and in which optionally one carbon atom is replaced by oxygen or sulphur,

30 R¹³ represents hydrogen, represents C₁-C₈-alkyl or C₁-C₈-alkoxy, each of which is optionally mono- to trisubstituted by halogen, represents C₃-C₈-cycloalkyl which is optionally mono- to trisubstituted by halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy and in which optionally one methylene group is replaced by oxygen or sulphur, or represents phenyl, phenyl-C₁-C₄-alkyl or phenyl-C₁-C₄-alkoxy, each of which is

optionally mono- or disubstituted by halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, nitro or cyano,

R¹⁴ represents hydrogen or C₁-C₈-alkyl or

R¹³ and R¹⁴ together represent C₄-C₆-alkanediyl,

5 R¹⁵ and R¹⁶ are identical or different and represent C₁-C₆-alkyl or

R¹⁵ and R¹⁶ together represent a C₂-C₄-alkanediyl radical which is optionally mono- or disubstituted by C₁-C₆-alkyl, C₁-C₆-haloalkyl or by phenyl which is optionally mono- or disubstituted by halogen, C₁-C₆-alkyl, C₁-C₄-haloalkyl, C₁-C₆-alkoxy, C₁-C₄-haloalkoxy, nitro or cyano,

10 R¹⁷ and R¹⁸ independently of one another represent hydrogen, represent optionally halogen-substituted C₁-C₈-alkyl or represent phenyl which is optionally mono- or disubstituted by halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, nitro or cyano or

15 R¹⁷ and R¹⁸ together with the carbon atom to which they are attached represent a carbonyl group or represent C₅-C₇-cycloalkyl which is optionally mono- or disubstituted by halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy and in which optionally one methylene group is replaced by oxygen or sulphur,

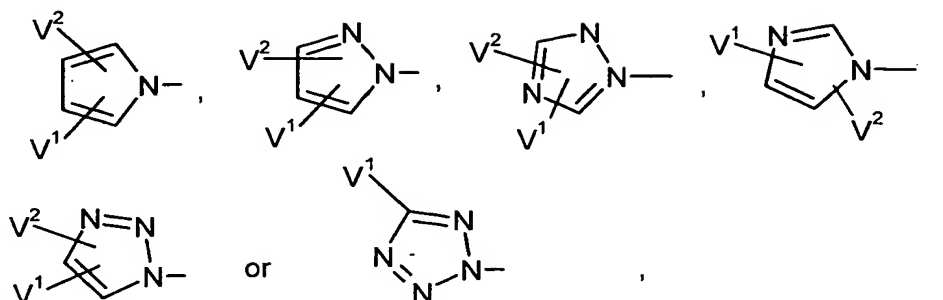
20 R¹⁹ and R²⁰ independently of one another represent C₁-C₁₀-alkyl, C₂-C₁₀-alkenyl, C₁-C₁₀-alkoxy, C₁-C₁₀-alkylamino, C₃-C₁₀-alkenylamino, di-(C₁-C₁₀-alkyl)amino or di-(C₃-C₁₀-alkenyl)amino.

3. Compounds of the formula (I) according to Claim 1 in which

X represents fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, nitro or cyano,

25 W and Y independently of one another represent hydrogen, fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkoxy,

Z represents one of the radicals



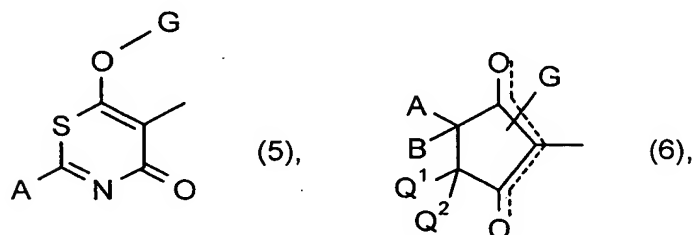
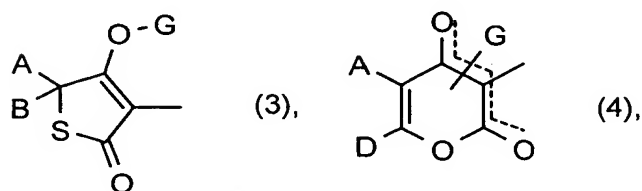
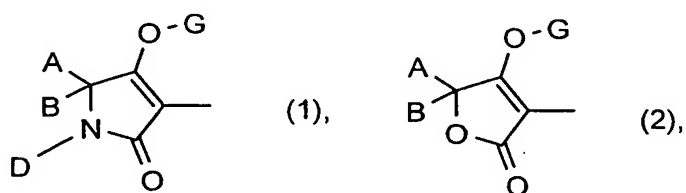
V¹ represents hydrogen, fluorine, chlorine, bromine, iodine, C₁-C₆-alkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, cyano or nitro,

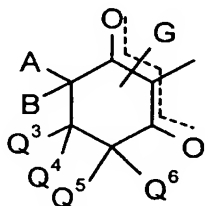
5 V² represents hydrogen, fluorine, chlorine, bromine, C₁-C₄-alkyl or C₁-C₂-haloalkyl,

V¹ and V² together represent C₃-C₄-alkanediyl which is optionally mono- to tetrasubstituted by fluorine and which may optionally be interrupted once or twice by oxygen or represent butadienyl which is optionally mono- or disubstituted by fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₂-haloalkyl, C₁-C₂-haloalkoxy, cyano or nitro,

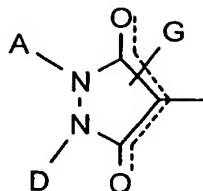
10

CKE represents one of the groups





(7),



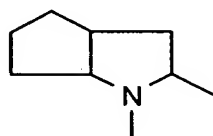
(8),

- A represents hydrogen, represents C₁-C₆-alkyl, C₁-C₄-alkoxy-C₁-C₂-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine, represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C₁-C₂-alkyl, trifluoromethyl or C₁-C₂-alkoxy or (but not in the case of the compounds of the formulae (I-3), (I-4), (I-6) and (I-7)) represents phenyl or benzyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₂-haloalkyl, C₁-C₄-alkoxy, C₁-C₂-haloalkoxy, cyano or nitro,
- B represents hydrogen, C₁-C₄-alkyl or C₁-C₂-alkoxyl-C₁-C₂-alkyl or
- A, B and the carbon atom to which they are attached represent saturated C₃-C₇-cycloalkyl or unsaturated C₅-C₇-cycloalkyl in which optionally one ring member is replaced by oxygen or sulphur and which is optionally mono- or disubstituted by C₁-C₆-alkyl, trifluoromethyl or C₁-C₆-alkoxy, with the proviso that in this case Q³ represents hydrogen or methyl, or
- A, B and the carbon atom to which they are attached represent C₅-C₆-cycloalkyl which is substituted by an alkylenediyl group which optionally contains one or two not directly adjacent oxygen or sulphur atoms and which is optionally mono- or disubstituted by methyl or ethyl, or by an alkylenedioxy or by an alkylenedithiol group which, together with the carbon atom to which it is attached, forms a further five- or six-membered ring, with the proviso that in this case Q³ represents hydrogen or methyl,
- A, B and the carbon atom to which they are attached represent C₃-C₆-cycloalkyl or C₅-C₆-cycloalkenyl in which two substituents together with the carbon atoms to which they are attached represent C₂-C₄-alkanediyl, C₂-C₄-alkenediyl or butadienediyl, each of which is optionally substituted by C₁-C₂-alkyl or C₁-C₂-alkoxy, with the proviso that in this case Q³ represents hydrogen or methyl,

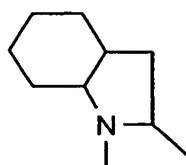
D represents hydrogen, represents C_1 - C_6 -alkyl, C_3 - C_6 -alkenyl, C_1 - C_4 -alkoxy- C_2 - C_3 -alkyl, each of which is optionally mono- to trisubstituted by fluorine, represents C_3 - C_6 -cycloalkyl which is optionally mono- or disubstituted by C_1 - C_4 -alkyl, C_1 - C_4 -alkoxy or C_1 - C_2 -haloalkyl and in which optionally one methylene group is replaced by oxygen or (but not in the case of the compounds of the formula (I-1)) represents phenyl or pyridyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, C_1 - C_4 -alkyl, C_1 - C_4 -haloalkyl, C_1 - C_4 -alkoxy or C_1 - C_4 -haloalkoxy, or

A and D together represent C_3 - C_5 -alkanediyl which is optionally mono- or disubstituted and in which one methylene group may be replaced by a carbonyl group, oxygen or sulphur, possible substituents being C_1 - C_2 -alkyl or C_1 - C_2 -alkoxy, or

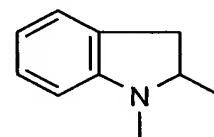
A and D (in the case of the compounds of the formula (I-1)) together with the atoms to which they are attached represent one of the groups AD-1 to AD-10:



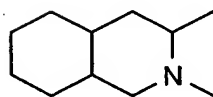
AD-1



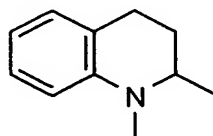
AD-2



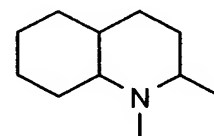
AD-3



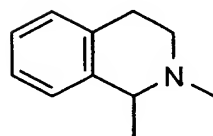
AD-4



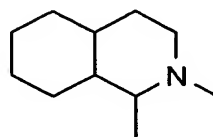
AD-5



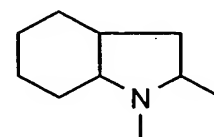
AD-6



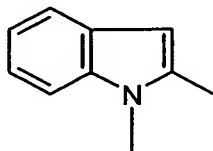
AD-7



AD-8



AD-9



AD-10

or

A and Q¹ together represent C₃-C₄-alkanediyl or C₄-alkenediyl, each of which is optionally mono- or disubstituted by identical or different substituents from the group consisting of fluorine, chlorine, hydroxyl and C₁-C₈-alkyl and C₁-C₄-alkoxy, each of which is optionally mono- to trisubstituted by fluorine, or

Q¹ represents hydrogen,

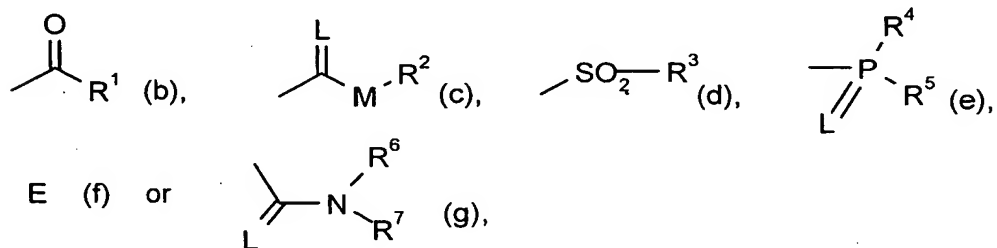
Q² represents hydrogen,

Q⁴, Q⁵ and Q⁶ independently of one another represent hydrogen or C₁-C₃-alkyl,

Q³ represents hydrogen, C₁-C₄-alkyl, trifluoromethyl or represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by methyl or methoxy, or

Q³ and Q⁴ together with the carbon to which they are attached represent a saturated C₅-C₆-ring which is optionally mono- or disubstituted by C₁-C₂-alkyl or C₁-C₂-alkoxy and in which optionally one ring member is replaced by oxygen or sulphur, with the proviso that in this case A represents hydrogen or methyl, or

G represents hydrogen (a) or represents one of the groups



in which

- E represents a metal ion equivalent or an ammonium ion,
- L represents oxygen or sulphur and
- M represents oxygen or sulphur,
- 5 R¹ represents C₁-C₈-alkyl, C₂-C₈-alkenyl, C₁-C₄-alkoxy-C₁-C₂-alkyl, C₁-C₄-alkylthio-C₁-C₂-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine, or represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C₁-C₂-alkyl or C₁-C₂-alkoxy and in which optionally one or two not directly adjacent ring members are replaced by oxygen,
- 10 represents phenyl which is optionally mono- or disubstituted by fluorine, chlorine, bromine, cyano, nitro, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₂-haloalkyl or C₁-C₂-haloalkoxy,
- R² represents C₁-C₈-alkyl, C₂-C₈-alkenyl or C₁-C₄-alkoxy-C₂-C₄-alkyl, each of which is optionally mono- to trisubstituted by fluorine,
- 15 represents C₃-C₆-cycloalkyl which is optionally monosubstituted by C₁-C₂-alkyl or C₁-C₂-alkoxy or
- represents phenyl or benzyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, cyano, nitro, C₁-C₄-alkyl, C₁-C₃-alkoxy, trifluoromethyl or trifluoromethoxy,
- 20 R³ represents C₁-C₆-alkyl which is optionally mono- to trisubstituted by fluorine or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,
- 25 R⁴ represents C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino, C₁-C₆-alkylthio, C₃-C₄-alkenylthio, C₃-C₆-cycloalkylthio, each of which is optionally mono- to trisubstituted by fluorine, or represents phenyl, phenoxy or phenylthio, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, nitro, cyano, C₁-C₃-alkoxy, C₁-C₃-haloalkoxy, C₁-C₃-alkylthio, C₁-C₃-haloalkylthio, C₁-C₃-alkyl or trifluoromethyl,
- R⁵ represents C₁-C₆-alkoxy or C₁-C₆-alkylthio,

5 R^6 represents hydrogen, represents C_1 - C_6 -alkyl, C_3 - C_6 -cycloalkyl, C_1 - C_6 -alkoxy, C_3 - C_6 -alkenyl, C_1 - C_6 -alkoxy- C_1 - C_4 -alkyl, each of which is optionally mono- to trisubstituted by fluorine, represents phenyl which is optionally mono- or disubstituted by fluorine, chlorine, bromine, trifluoromethyl, C_1 - C_4 -alkyl or C_1 - C_4 -alkoxy, represents benzyl which is optionally monosubstituted by fluorine, chlorine, bromine, C_1 - C_4 -alkyl, trifluoromethyl or C_1 - C_4 -alkoxy,

R^7 represents C_1 - C_6 -alkyl, C_3 - C_6 -alkenyl or C_1 - C_6 -alkoxy- C_1 - C_4 -alkyl,

10 R^6 and R^7 together represent a C_4 - C_5 -alkylene radical which is optionally mono- or disubstituted by methyl or ethyl and in which optionally a methylene group is replaced by oxygen or sulphur.

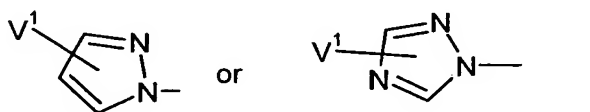
4. Compounds of the formula (I) according to Claim 1 in which

W represents hydrogen, methyl, ethyl or chlorine,

X represents chlorine, methyl, ethyl, propyl, methoxy, ethoxy, propoxy, trifluoromethyl, difluoromethoxy or trifluoromethoxy,

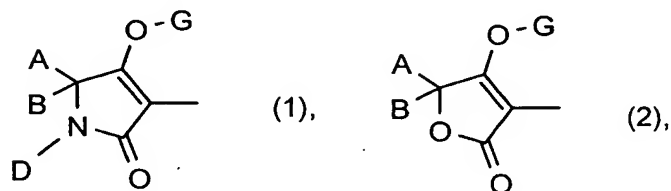
15 Y represents hydrogen or methyl,

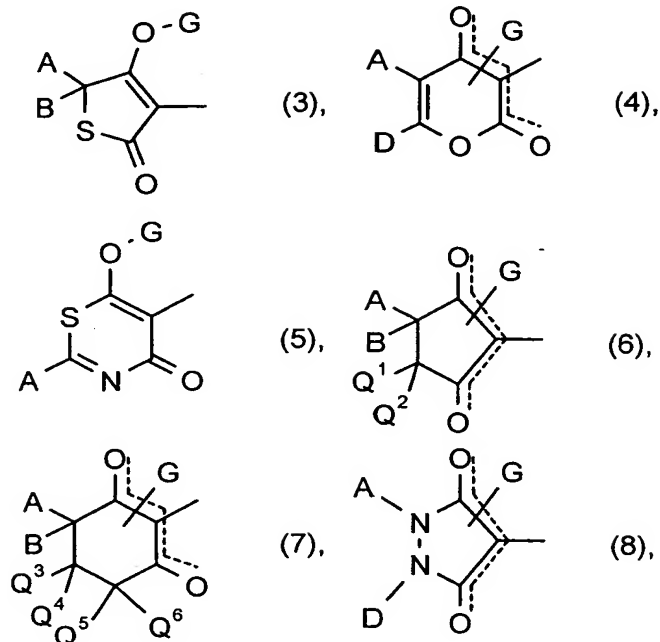
Z represents one of the radicals



V^1 represents hydrogen, fluorine, chlorine, bromine, methyl, ethyl, methoxy, ethoxy, trifluoromethyl or cyano,

20 CKE represents one of the groups



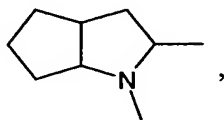


- 5 A represents hydrogen, represents C₁-C₄-alkyl or C₁-C₂-alkoxy-C₁-C₂-alkyl, each of which is optionally mono- to trisubstituted by fluorine, represents cyclopropyl, cyclopentyl or cyclohexyl and, only in the case of the compounds of the formula (I-5), represents phenyl which is optionally mono- or disubstituted by fluorine, chlorine, bromine, methyl, ethyl, n-propyl, isopropyl, methoxy, ethoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,
- B represents hydrogen, methyl or ethyl or
- 10 A, B and the carbon atom to which they are attached represent saturated C₅-C₆-cycloalkyl in which optionally one ring member is replaced by oxygen or sulphur and which is optionally monosubstituted by methyl, ethyl, propyl, isopropyl, trifluoromethyl, methoxy, ethoxy, propoxy, butoxy or isobutoxy, with the proviso that in this case Q³ represents hydrogen, or
- 15 A, B and the carbon atom to which they are attached represent C₆-cycloalkyl which is substituted by an alkylenedioxy group containing two not directly adjacent oxygen atoms, with the proviso that in this case Q³ represents hydrogen, or
- 20 A, B and the carbon atom to which they are attached represent C₅-C₆-cycloalkyl or C₅-C₆-cycloalkenyl in which two substituents together with the carbon atoms to which they are attached represent C₂-C₄-alkanediyl or C₂-C₄-alkenediyl or butadienediyl, with the proviso that in this case Q³ represents hydrogen,

D represents hydrogen, represents C₁-C₄-alkyl, C₃-C₄-alkenyl, C₁-C₄-alkoxy-C₁-C₃-alkyl, each of which is optionally mono- to trisubstituted by fluorine, represents cyclopropyl, cyclopentyl or cyclohexyl or (but not in the case of the compounds of the formula (I-1)) represents pyridyl or phenyl which is optionally monosubstituted by fluorine, chlorine, methyl, ethyl, n-propyl, isopropyl, methoxy, ethoxy or trifluoromethyl,

or

A and D together represent C₃-C₅-alkanediyl which is optionally mono- or disubstituted by methyl or methoxy and in which optionally one carbon atom is replaced by oxygen or sulphur or represent the group AD-1



A and Q¹ together represent C₃-C₄-alkanediyl which is optionally mono- or disubstituted by methyl or methoxy, or

Q¹ represents hydrogen,

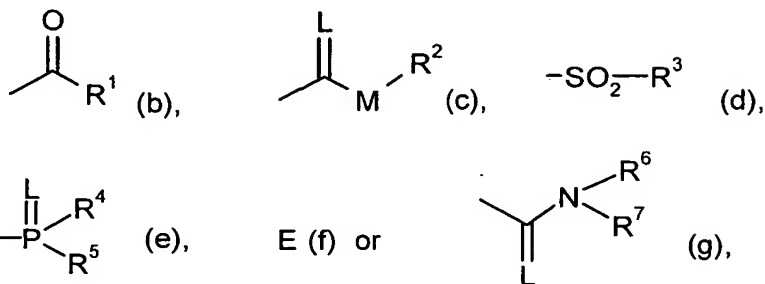
Q² represents hydrogen,

Q⁴, Q⁵ and Q⁶ independently of one another represent hydrogen or methyl,

Q³ represents hydrogen, methyl, ethyl, propyl or isopropyl, or

Q³ and Q⁴ together with the carbon to which they are attached represent a saturated C₅-C₆-ring which is optionally monosubstituted by methyl or methoxy, with the proviso that in this case A represents hydrogen,

G represents hydrogen (a) or represents one of the groups



in which

5 E represents a metal ion equivalent or an ammonium ion,

L represents oxygen or sulphur and

M represents oxygen or sulphur,

10 R¹ represents C₁-C₆-alkyl, C₂-C₆-alkenyl, C₁-C₂-alkoxy-C₁-alkyl, C₁-C₂-alkylthio-C₁-alkyl, each of which is optionally mono- to trisubstituted by fluorine, or represents cyclopropyl or cyclohexyl, each of which is optionally monosubstituted by fluorine, chlorine, methyl or methoxy,

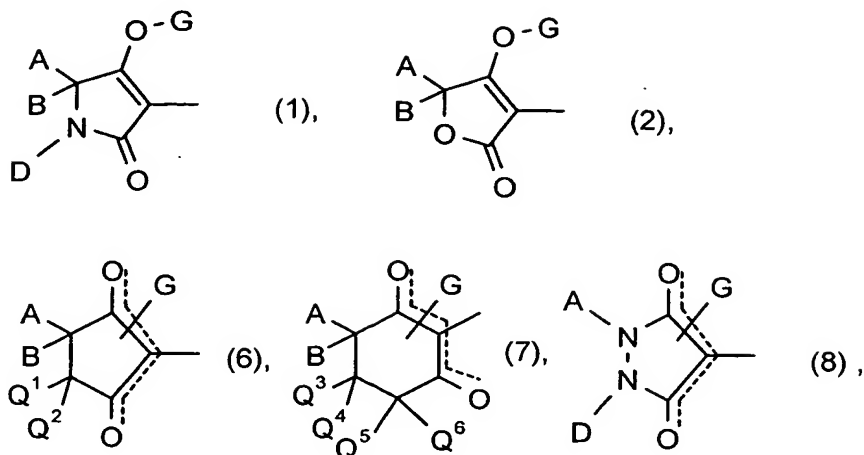
represents phenyl which is optionally monosubstituted by fluorine, chlorine, bromine, cyano, nitro, methyl, methoxy, trifluoromethyl or trifluoromethoxy,

15 R² represents C₁-C₈-alkyl, C₂-C₆-alkenyl or C₁-C₄-alkoxy-C₂-C₃-alkyl, each of which is optionally monosubstituted by fluorine,

or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, cyano, nitro, methyl, ethyl, n-propyl, i-propyl, methoxy, ethoxy, trifluoromethyl or trifluoromethoxy,

20 R³ represents methyl, ethyl, n-propyl, isopropyl, each of which is optionally mono- to trisubstituted by fluorine, or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, methyl, tert-butyl, methoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,

- 5 R^4 represents C_1 - C_4 -alkyl, C_1 - C_4 -alkoxy, C_1 - C_4 -alkylamino, di- $(C_1$ - C_4 -alkyl)amino, C_1 - C_4 -alkylthio, each of which is optionally mono- to trisubstituted by fluorine, or represents phenyl, phenoxy or phenylthio, each of which is optionally monosubstituted by fluorine, chlorine, bromine, nitro, cyano, C_1 - C_2 -alkoxy, C_1 - C_2 -fluoroalkoxy, C_1 - C_2 -alkylthio, C_1 - C_2 -fluoroalkylthio or C_1 - C_3 -alkyl,
- R^5 represents methoxy, ethoxy, propoxy, butoxy, methylthio, ethylthio, propylthio or butylthio,
- 10 R^6 represents hydrogen, represents C_1 - C_4 -alkyl, C_3 - C_6 -cycloalkyl, C_1 - C_4 -alkoxy, C_3 - C_4 -alkenyl, C_1 - C_4 -alkoxy- C_1 - C_4 -alkyl, each of which is optionally mono- to trisubstituted by fluorine, represents phenyl which is optionally monosubstituted by fluorine, chlorine, bromine, trifluoromethyl, methyl or methoxy, represents benzyl which is optionally monosubstituted by fluorine, chlorine, bromine, methyl, trifluoromethyl or methoxy,
- 15 R^7 represents methyl, ethyl, propyl, isopropyl, butyl, isobutyl or allyl,
- R^6 and R^7 represent a C_4 - C_5 -alkylene radical in which optionally one methylene group is replaced by oxygen or sulphur.
5. Compounds of the formula (I) according to Claim 1 in which
- W represents hydrogen, methyl or ethyl,
- X represents chlorine, methyl or ethyl,
- 20 Y represents hydrogen,
- Z represents, in the 4- or 5-position, the radical
- The diagram shows a five-membered ring with two nitrogen atoms at the 1 and 2 positions. The ring is partially saturated, with double bonds between carbons 3 and 4, and between carbons 4 and 5. A substituent labeled V¹ is attached to the carbon at the 4-position. The nitrogen at the 2-position has a bond extending from it, likely representing a continuation of the molecule.
- V^1 represents chlorine or methoxy,
- CKE represents one of the groups



A represents hydrogen, C₁-C₄-alkyl or cyclopropyl,

B represents hydrogen or methyl, or

5 A, B and the carbon atom to which they are attached represent saturated C₅-C₆-cycloalkyl in which optionally one ring member is replaced by oxygen and which is optionally monosubstituted by methyl or methoxy, with the proviso that in this case Q³ represents hydrogen,

D represents hydrogen,

10 or

A and D together represent C₃-C₅-alkanediyl in which optionally one carbon atom is replaced by oxygen,

Q¹ represents hydrogen,

Q² represents hydrogen,

15 Q³ represents methyl,

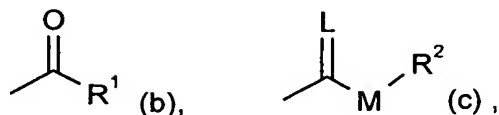
Q⁴ represents methyl, or

Q³ and Q⁴ together with the carbon to which they are attached represent a saturated C₅-C₆-ring, with the proviso that in this case A represents hydrogen,

Q⁵ represents hydrogen,

20 Q⁶ represents hydrogen,

G represents hydrogen (a) or represents one of the groups



in which

5 L represents oxygen and

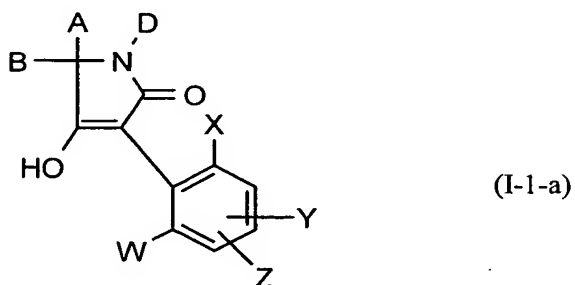
M represents oxygen or sulphur,

R¹ represents C₁-C₆-alkyl or C₁-C₂-alkoxy-C₁-alkyl,

R² represents C₁-C₈-alkyl or benzyl.

6. Process for preparing compounds of the formula (I) according to Claim 1, characterized in
10 that, to obtain

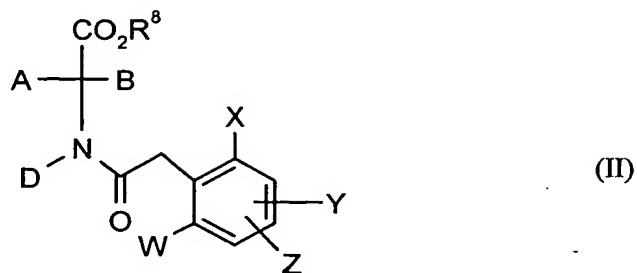
(A) compounds of the formula (I-1-a)



in which

A, B, D, W, X, Y and Z are as defined above,

15 compounds of the formula (II)



in which

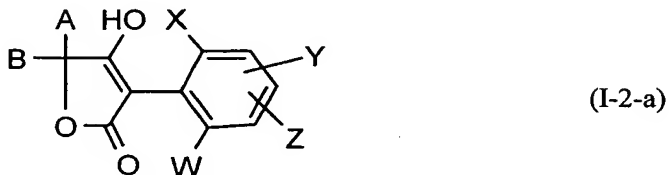
A, B, D, W, X, Y and Z are as defined above,

and

5 R^8 represents alkyl,

are condensed intramolecularly in the presence of a diluent and in the presence of a base,

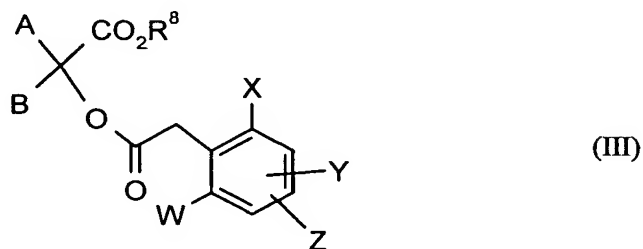
(B) compounds of the formula (I-2-a)



10 in which

A, B, W, X, Y and Z are as defined above,

compounds of the formula (III)

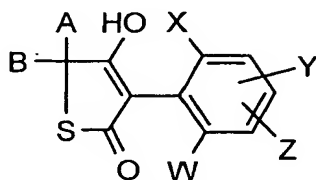


in which

15 A, B, W, X, Y, Z and R^8 are as defined above,

are condensed intramolecularly in the presence of a diluent and in the presence of a base,

(C) compounds of the formula (I-3-a)



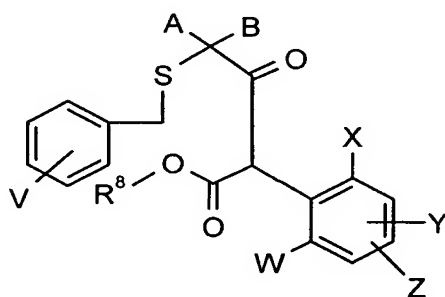
(I-3-a)

5

in which

A, B, W, X, Y and Z are as defined above,

compounds of the formula (IV)



(IV)

in which

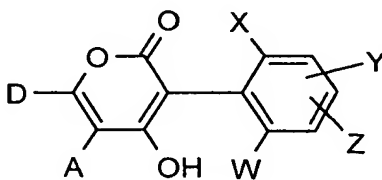
10

A, B, W, X, Y, Z and R^8 are as defined above and

V represents hydrogen, halogen or alkoxy,

are cyclized intramolecularly, if appropriate in the presence of a diluent and in the presence of an acid,

(D) compounds of the formula (I-4-a)



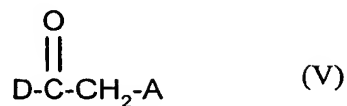
(I-4-a)

15

in which

A, D, W, X, Y and Z are as defined above,

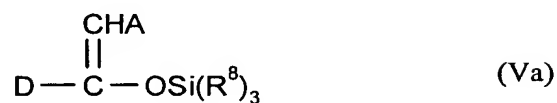
compounds of the formula (V)



in which

5 A and D are as defined above

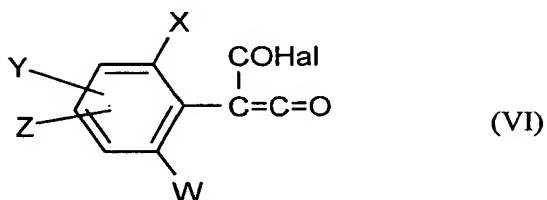
or silyl enole ethers thereof of the formula (Va)



in which

A, D and R^8 are as defined above

10 are reacted with compounds of the formula (VI)



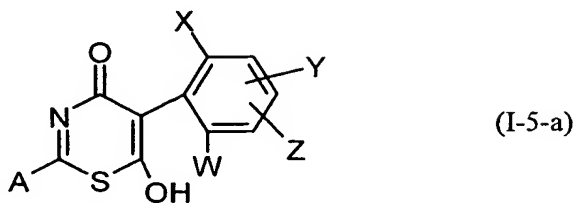
in which

W, X, Y and Z are as defined above and

Hal represents halogen,

15 if appropriate in the presence of a diluent and if appropriate in the presence of an acid acceptor,

(E) compounds of the formula (I-5-a)



in which

A, W, X, Y and Z are as defined above,

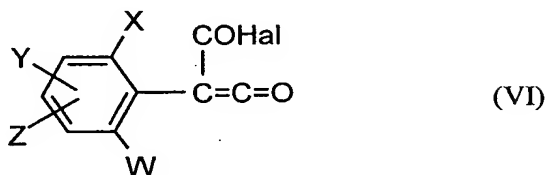
5 compounds of the formula (VII)



in which

A is as defined above

are reacted with compounds of the formula (VI)



10

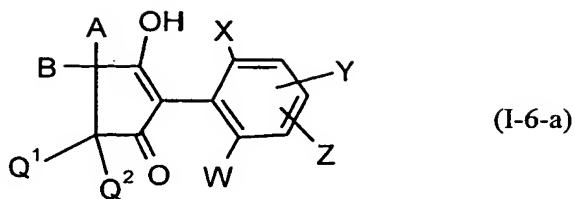
in which

Hal, W, X, Y and Z are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid acceptor,

15 (F) compounds of the formula (I-6-a)

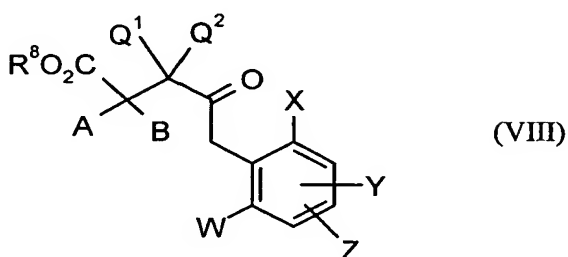
- 283-



in which

A, B, Q¹, Q², W, X, Y and Z are as defined above,

compounds of the formula (VIII)



5

in which

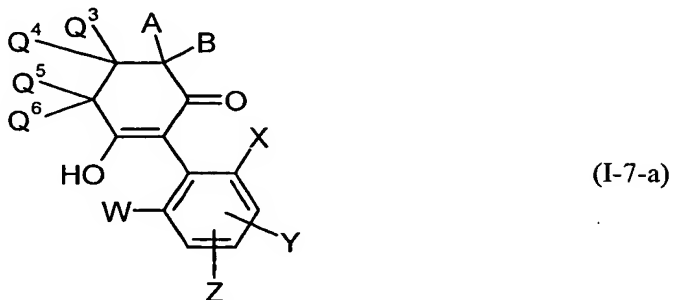
A, B, Q¹, Q², W, X, Y and Z are as defined above, and

R⁸ represents alkyl,

are cyclized intramolecularly, if appropriate in the presence of a diluent and in the presence of a base,

10

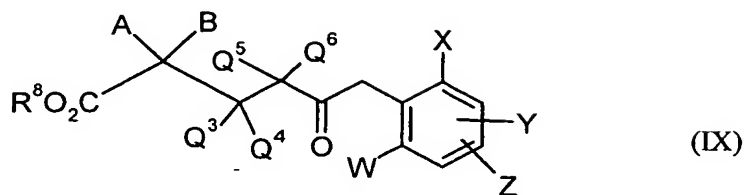
(G) compounds of the formula (I-7-a)



in which

A, B, Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above,

compounds of the formula (IX)



in which

A, B, Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above

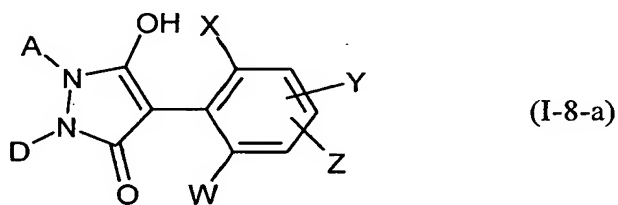
5

and

R⁸ represents alkyl

are condensed intramolecularly in the presence of a diluent and in the presence of a base,

(H) compounds of the formula (I-8-a)

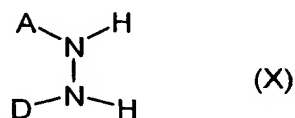


10

in which

A, D, W, X, Y and Z are as defined above,

compounds of the formula (X)

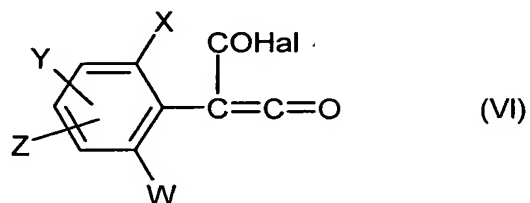


15

in which

A and D are as defined above

α) are reacted with compounds of the formula (VI)

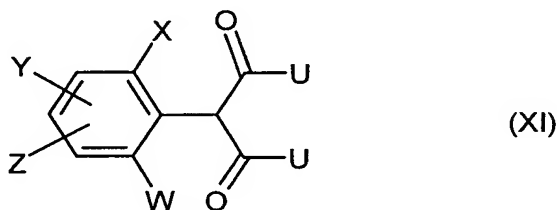


in which

Hal, W, X, Y and Z are as defined above,

5 if appropriate in the presence of a diluent and if appropriate in the presence of an acid acceptor, or

β) are reacted with compounds of the formula (XI)



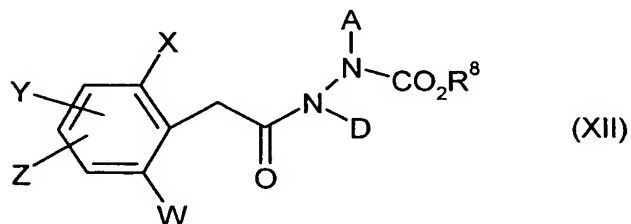
in which

10 W, X, Y and Z are as defined above

and U represents NH_2 or O-R^8 ,

if appropriate in the presence of a diluent and if appropriate in the presence of a base, or

γ) are reacted with compounds of the formula (XII)



15

in which

A, D, W, X, Y, Z and R⁸ are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of a base,

- 5 (I) compounds of the formulae (I-1-b) to (I-8-b) shown above in which A, B, D, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, R¹, W, X, Y and Z are as defined above, compounds of the formulae (I-1-a) to (I-8-a) shown above in which A, B, D, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above are in each case

(α) reacted with acid halides of the formula (XIII)



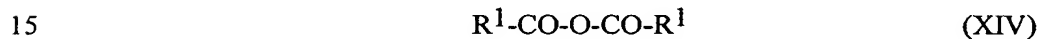
10 in which

R¹ is as defined above and

Hal represents halogen,

or

(β) reacted with carboxylic anhydrides of the formula (XIV)



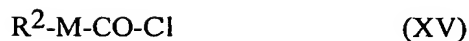
in which

R¹ is as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

- 20 (J) compounds of the formulae (I-1-c) to (I-8-c) shown above in which A, B, D, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, R², M, W, X, Y and Z are as defined above and L represents oxygen, compounds of the formulae (I-1-a) to (I-8-a) shown above in which A, B, D, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above are in each case

reacted with chloroformic esters or chloroformic thioesters of the formula (XV)



in which

R^2 and M are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

5

(K) compounds of the formulae (I-1-c) to (I-8-c) shown above in which A, B, D, Q^1 , Q^2 , Q^3 , Q^4 , Q^5 , Q^6 , R^2 , M, W, X, Y and Z are as defined above and L represents sulphur, compounds of the formulae (I-1-a) to (I-8-a) shown above in which A, B, D, Q^1 , Q^2 , Q^3 , Q^4 , Q^5 , Q^6 , W, X, Y and Z are as defined above are in each case

10

reacted with chloromonothioformic esters or chlorodithioformic esters of the formula (XVI)



in which

M and R^2 are as defined above,

15

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

and

(L) compounds of the formulae (I-1-d) to (I-8-d) shown above in which A, B, D, Q^1 , Q^2 , Q^3 , Q^4 , Q^5 , Q^6 , R^3 , W, X, Y and Z are as defined above, compounds of the formulae (I-1-a) to (I-8-a) shown above in which A, B, D, Q^1 , Q^2 , Q^3 , Q^4 , Q^5 , Q^6 , W, X, Y and Z are as defined above are in each case

20

reacted with sulphonyl chlorides of the formula (XVII)



in which

25

R^3 is as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

- (M) compounds of the formulae (I-1-e) to (I-8-e) shown above in which A, B, D, L, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, R⁴, R⁵, W, X, Y and Z are as defined above, compounds of the formulae (I-1-a) to (I-8-a) shown above in which A, B, D, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above are in each case

reacted with phosphorus compounds of the formula (XVIII)



in which

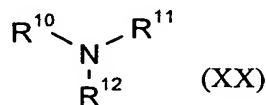
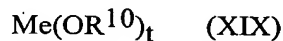
L, R⁴ and R⁵ are as defined above and

Hal represents halogen,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

- (N) compounds of the formulae (I-1-f) to (I-8-f) shown above in which A, B, D, E, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above, compounds of the formulae (I-1-a) to (I-8-a) shown above in which A, B, D, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above are in each case

reacted with metal compounds or amines of the formulae (XIX) and (XX), respectively,



in which

Me represents a mono- or divalent metal,

t represents the number 1 or 2 and

R^{10}, R^{11}, R^{12} independently of one another represent hydrogen or alkyl,

if appropriate in the presence of a diluent,

- (O) compounds of the formulae (I-1-g) to (I-8-g) shown above in which A, B, D, L, $Q^1, Q^2, Q^3, Q^4, Q^5, Q^6, R^7, W, X, Y$ and Z are as defined above, compounds of the formulae (I-1-a) to (I-8-a) shown above in which A, B, D, $Q^1, Q^2, Q^3, Q^4, Q^5, Q^6, W, X, Y$ and Z are as defined above are in each case

- (α) reacted with isocyanates or isothiocyanates of the formula (XXI)



in which

R^6 and L are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of a catalyst, or

- (β) reacted with carbamoyl chlorides or thiocarbamoyl chlorides of the formula (XXII)



in which

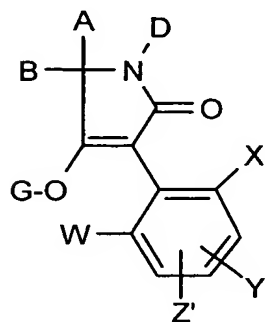
L, R^6 and R^7 are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

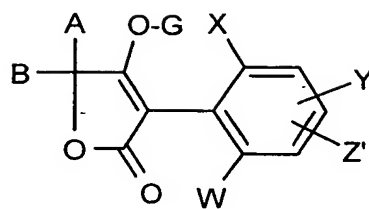
- (P) compounds of the formulae (I-1) to (I-8) shown above in which A, B, D, $Q^1, Q^2, Q^3, Q^4, Q^5, Q^6, W, X, Y$ and Z are as defined above, compounds of the formulae (I-1') to (I-8')

- 290-

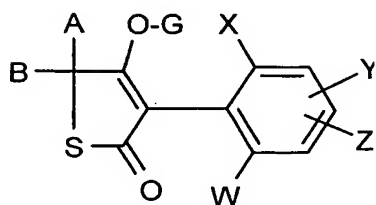
(I-1'):



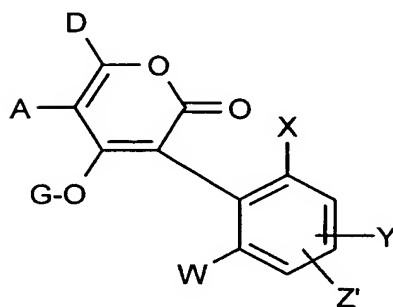
(I-2'):



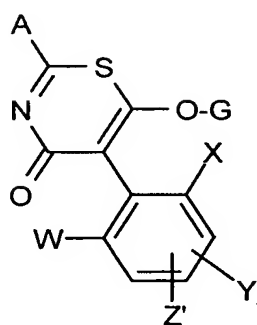
(I-3'):



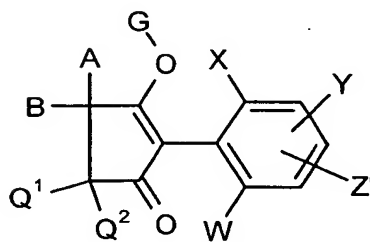
(I-4'):



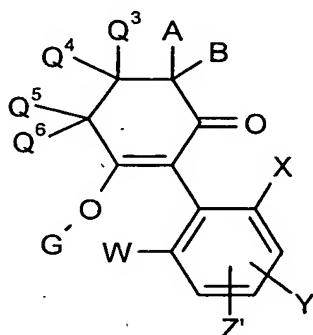
(I-5'):



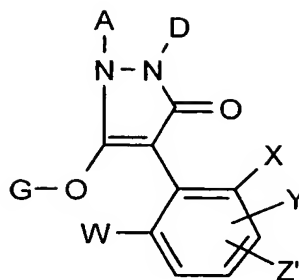
(I-6'):



(I-7'):



(I-8'):



in which

A, B, D, G, Q¹, Q², Q³, Q⁴, Q⁵, Q⁶, W, X and Y are as defined above and

Z' represents chlorine, bromine, iodine,

5

are reacted with NH heterocycles of the formula (XXIII)

H - Z

(XXIII)

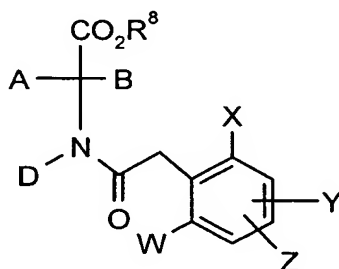
in which

Z is as defined above,

in the presence of a solvent, a base and a catalyst, suitable catalysts being, in particular, copper(I) salts.

10

7. Compounds of the formula (II)

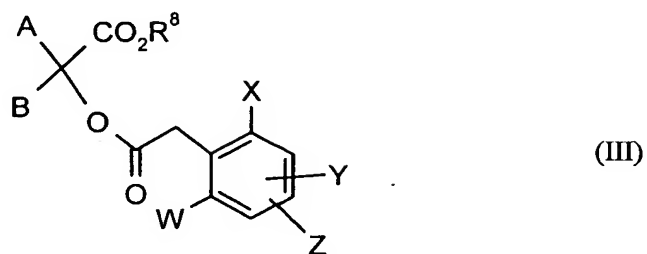


(II)

in which

A, B, D, W, X, Y, Z and R⁸ are as defined above.

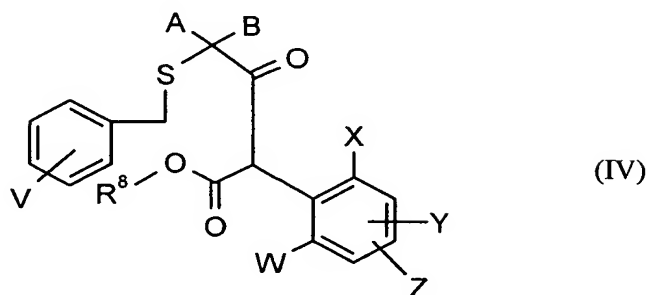
8. Compounds of the formula (III)



in which

A, B, W, X, Y, Z and R^8 are as defined above.

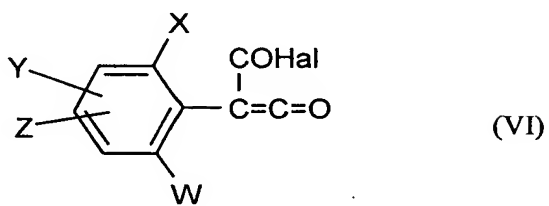
5 9. Compounds of the formula (IV)



in which

A, B, W, X, Y, Z, V and R^8 are as defined above.

10. Compounds of the formula (VI)

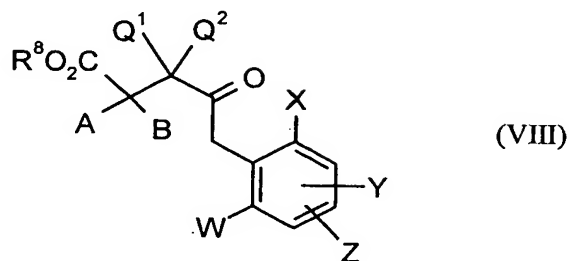


10

in which

W, X, Y, Z and Hal are as defined above.

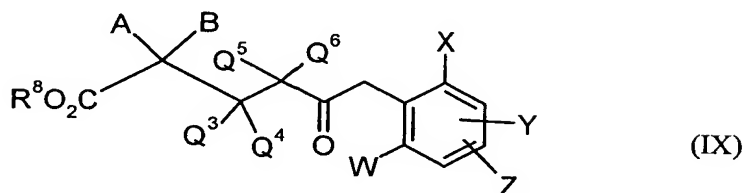
11. Compounds of the formula (VIII)



in which

A, B, Q¹, Q², W, X, Y, Z and R⁸ are as defined above.

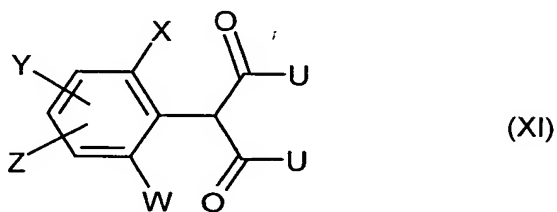
5 12. Compounds of the formula (IX)



in which

A, B, R⁸, Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above.

13. Compounds of the formula (XI)

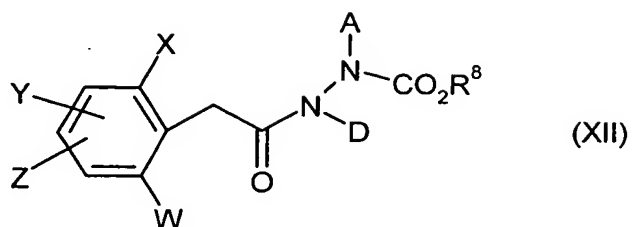


10

in which

U, W, X, Y and Z are as defined above.

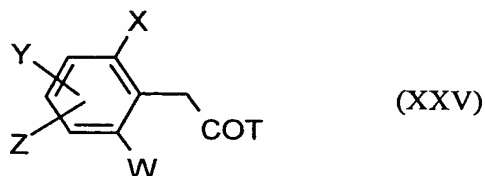
14. Compounds of the formula (XII)



in which

A, D, W, X, Y, Z and R^8 are as defined above.

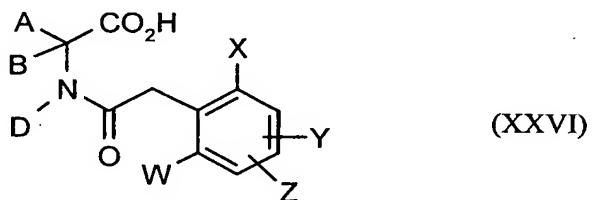
- 5 15. Compounds of the formula (XXV)



in which

T, W, X, Y and Z are as defined above.

16. Compounds of the formula (XXVI)

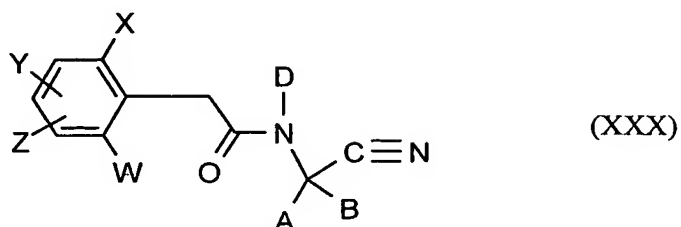


10

in which

A, B, D, W, X, Y and Z are as defined above.

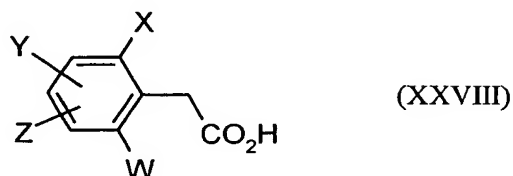
17. Compounds of the formula (XXX)



in which

A, B, D, W, X, Y and Z are as defined above.

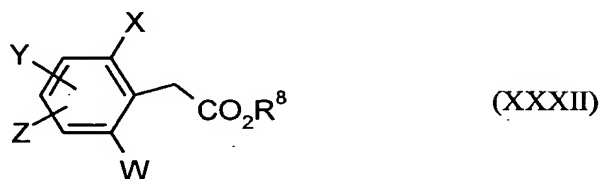
- 5 18. Compounds of the formula (XXVIII)



in which

W, X, Y and Z are as defined above.

19. Compounds of the formula (XXXII)

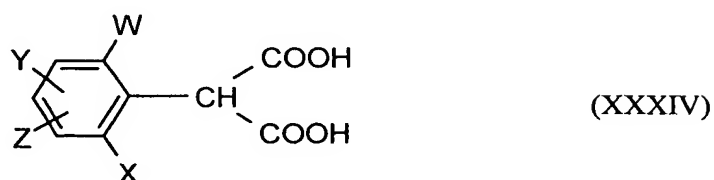


10

in which

W, X, Y, Z and R⁸ are as defined above.

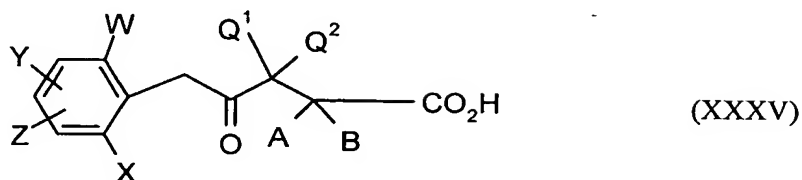
20. Compounds of the formula (XXXIV)



in which

W, X, Y and Z are as defined above.

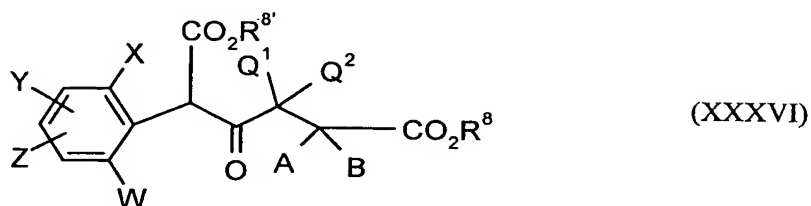
21. Compounds of the formula (XXXV)



5 in which

A, B, Q¹, Q², W, X, Y and Z are as defined above.

22. Compounds of the formula (XXXVI)



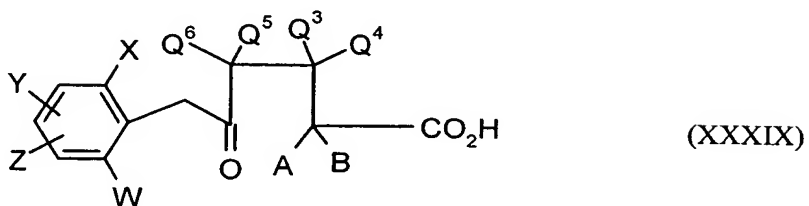
in which

10 A, B, Q¹, Q², W, X, Y and Z are as defined above

and

R⁸ and R^{8'} represent alkyl.

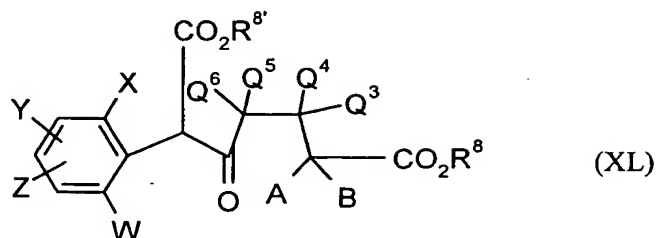
23. Compounds of the formula (XXXIX)



15 in which

A, B, Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above.

24. Compounds of the formula (XL)



in which

A, B, Q³, Q⁴, Q⁵, Q⁶, W, X, Y and Z are as defined above

5 and

R⁸ and R^{8'} represent alkyl.

25. Pesticides and/or herbicides and/or fungicides, characterized in that they comprise at least one compound of the formula (I) according to Claim 1.

26. Method for controlling animal pests and/or unwanted vegetation and/or fungi,
10 characterized in that compounds of the formula (I) according to Claim 1 are allowed to act on pests and/or their habitat.

27. Use of compounds of the formula (I) according to Claim 1 for controlling animal pests and/or unwanted vegetation and/or fungi.

28. Process for preparing pesticides and/or herbicides and/or fungicides, characterized in that
15 compounds of the formula (I) according to Claim 1 are mixed with extenders and/or surfactants.

29. Use of compounds of the formula (I) according to Claim 1 for preparing pesticides and/or herbicides and/or fungicides.

30. Compositions, comprising an effective amount of an active compound combination
20 comprising, as components,

- (a') at least one substituted, cyclic ketoenol of the formula (I), in which CKE, W, X, Y and Z are as defined in Claim 1

and

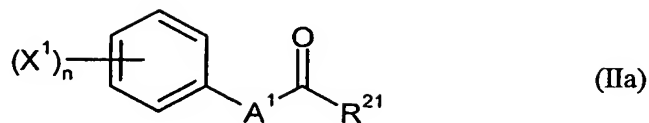
- (b') at least one compound which improves crop plant tolerance and which is selected from the following group of compounds:

4-dichloroacetyl-1-oxa-4-aza-spiro[4.5]-decane (AD-67, MON-4660),
 1-dichloroacetyl-hexahydro-3,3,8a-trimethylpyrrolo[1,2-a]-pyrimidin-6(2H)-
 one (dicyclonon, BAS-145138), 4-dichloroacetyl-3,4-dihydro-3-methyl-2H-
 1,4-benzoxazine (benoxacor), 1-methyl-hexyl 5-chloro-quinolin-8-oxy-
 acetate (cloquintocet-mexyl - cf. also related compounds in EP-A-86750,
 EP-A-94349, EP-A-191736, EP-A-492366), 3-(2-chloro-benzyl)-1-(1-
 methyl-1-phenyl-ethyl)-urea (cumyluron), α -(cyanomethoximino)-
 phenylacetonitrile (cyometrinil), 2,4-dichloro-phenoxyacetic acid (2,4-D), 4-
 (2,4-dichloro-phenoxy)-butyric acid (2,4-DB), 1-(1-methyl-1-phenyl-ethyl)-
 3-(4-methyl-phenyl)-urea (daimuron, dymron), 3,6-dichloro-2-methoxy-
 benzoic acid (dicamba), S-1-methyl-1-phenyl-ethyl piperidine-1-
 thiocarboxylate (dimepiperate), 2,2-dichloro-N-(2-oxo-2-(2-
 propenylamino)-ethyl)-N-(2-propenyl)-acetamide (DKA-24), 2,2-dichloro-
 N,N-di-2-propenyl-acetamide (dichlormid), 4,6-dichloro-2-phenyl-
 pyrimidine (fenclorim), ethyl 1-(2,4-dichloro-phenyl)-5-trichloromethyl-1H-
 1,2,4-triazole-3-carboxylate (fenchlorazole-ethyl - cf. also related
 compounds in EP-A-174562 and EP-A-346620), phenylmethyl 2-chloro-4-
 trifluoromethyl-thiazole-5-carboxylate (flurazole), 4-chloro-N-(1,3-
 dioxolan-2-yl-methoxy)- α -trifluoro-acetophenone oxime (fluxofenim), 3-
 dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine (furilazole, MON-
 13900), ethyl 4,5-dihydro-5,5-diphenyl-3-isoxazolecarboxylate (isoxadifen-
 ethyl - cf. also related compounds in WO-A-95/07897), 1-(ethoxycarbonyl)-
 ethyl-3,6-dichloro-2-methoxybenzoate (lactidichlor), (4-chloro-o-tolyloxy)-
 acetic acid (MCPA), 2-(4-chloro-o-tolyloxy)-propionic acid (mecoprop),
 diethyl 1-(2,4-dichloro-phenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5-
 dicarboxylate (mefenpyr-diethyl - cf. also related compounds in
 WO-A-91/07874), 2-dichloromethyl-2-methyl-1,3-dioxolane (MG-191), 2-
 propenyl-1-oxa-4-azaspiro[4.5]decane 4-carbodithioate (MG-838), 1,8-
 naphthalic anhydride, α -(1,3-dioxolan-2-yl-methoximino)-phenylacetonitrile
 (oxabetrinil), 2,2-dichloro-N-(1,3-dioxolan-2-yl-methyl)-N-(2-propenyl)-

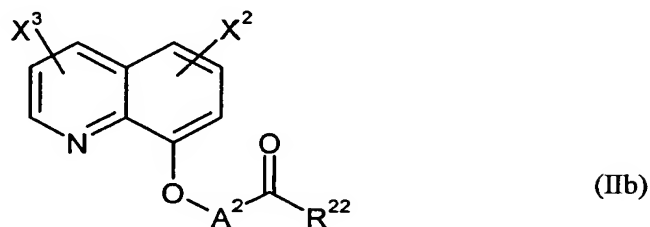
acetamide (PPG-1292), 3-dichloroacetyl-2,2-dimethyl-oxazolidine (R-28725), 3-dichloroacetyl-2,2,5-trimethyl-oxazolidine (R-29148), 4-(4-chloro-o-tolyl)-butyric acid, 4-(4-chloro-phenoxy)-butyric acid, diphenylmethoxyacetic acid, methyl diphenylmethoxyacetate, ethyl diphenylmethoxyacetate, methyl 1-(2-chloro-phenyl)-5-phenyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichloro-phenyl)-5-methyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichloro-phenyl)-5-isopropyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichloro-phenyl)-5-(1,1-dimethyl-ethyl)-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichloro-phenyl)-5-phenyl-1H-pyrazole-3-carboxylate (cf. also related compounds in EP-A-269806 and EP-A-333131), ethyl 5-(2,4-dichloro-benzyl)-2-isoxazoline-3-carboxylate, ethyl 5-phenyl-2-isoxazoline-3-carboxylate, ethyl 5-(4-fluoro-phenyl)-5-phenyl-2-isoxazoline-3-carboxylate (cf. also related compounds in WO-A-91/08202), 1,3-dimethyl-but-1-yl 5-chloro-quinolin-8-oxy-acetate, 4-allyloxy-butyl 5-chloro-quinolin-8-oxy-acetate, 1-allyloxy-prop-2-yl 5-chloro-quinolin-8-oxy-acetate, methyl 5-chloro-quinoxalin-8-oxy-acetate, ethyl 5-chloro-quinolin-8-oxy-acetate, allyl 5-chloro-quinoxalin-8-oxy-acetate, 2-oxo-prop-1-yl 5-chloro-quinolin-8-oxy-acetate, diethyl 5-chloro-quinolin-8-oxy-malonate, diallyl 5-chloro-quinoxalin-8-oxy-malonate, diethyl 5-chloro-quinolin-8-oxy-malonate (cf. also related compounds in EP-A-582198), 4-carboxy-chroman-4-yl-acetic acid (AC-304415, cf. EP-A-613618), 4-chloro-phenoxy-acetic acid, 3,3'-dimethyl-4-methoxy-benzophenone, 1-bromo-4-chloromethylsulphonyl-benzene, 1-[4-(N-2-methoxybenzoylsulphamoyl)-phenyl]-3-methyl-urea (alias N-(2-methoxybenzoyl)-4-[(methylamino-carbonyl)-amino]-benzenesulphonamide), 1-[4-(N-2-methoxybenzoylsulphamoyl)-phenyl]-3,3-dimethyl-urea, 1-[4-(N-4,5-dimethylbenzoylsulphamoyl)-phenyl]-3-methyl-urea, 1-[4-(N-naphthylsulphamoyl)-phenyl]-3,3-dimethyl-urea, N-(2-methoxy-5-methyl-benzoyl)-4-(cyclopropylaminocarbonyl)-benzenesulphonamide,

and/or one of the following compounds (defined by general formulae)

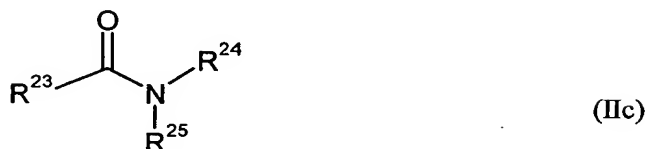
of the general formula (IIa)



or of the general formula (IIb)



or of the formula (IIc)

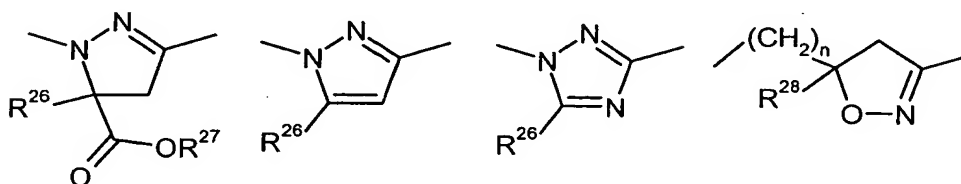


5

where

n represents a number of between 0 and 5,

A¹ represents one of the divalent heterocyclic groups outlined hereinbelow,



10

n represents a number of between 0 and 5,

A² represents alkanediyl having 1 or 2 carbon atoms which is optionally substituted by C₁-C₄-alkyl and/or C₁-C₄-alkoxy-carbonyl,

R²¹ represents hydroxyl, mercapto, amino, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino or di-(C₁-C₄-alkyl)amino,

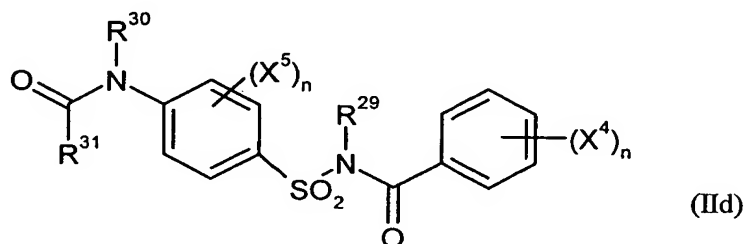
- R²² represents hydroxyl, mercapto, amino, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino or di-(C₁-C₄-alkyl)amino,
- R²³ represents C₁-C₄-alkyl which is optionally substituted in each case by fluorine, chlorine and/or bromine,
- 5 R²⁴ represents hydrogen, or represents C₁-C₆-alkyl, C₂-C₆-alkenyl or C₂-C₆-alkynyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, dioxolanyl-C₁-C₄-alkyl, furyl, furyl-C₁-C₄-alkyl, thienyl, thiazolyl, piperidinyl, each of which is optionally substituted by fluorine, chlorine and/or bromine, or represents phenyl which is optionally substituted by fluorine, chlorine and/or bromine or C₁-C₄-alkyl,
- 10 R²⁵ represents hydrogen, or represents C₁-C₆-alkyl, C₂-C₆-alkenyl or C₂-C₆-alkynyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, dioxolanyl-C₁-C₄-alkyl, furyl, furyl-C₁-C₄-alkyl, thienyl, thiazolyl, piperidinyl, each of which is optionally substituted by fluorine, chlorine and/or bromine, or represents phenyl which is optionally substituted by fluorine, chlorine and/or bromine or C₁-C₄-alkyl,
- 15 or together with R²⁴ represents C₃-C₆-alkanediyl or C₂-C₅-oxaalkanediyl, each of which is optionally substituted by C₁-C₄-alkyl, phenyl, furyl, a fused benzene ring or by two substituents which, together with the C atom to which they are bonded, form a 5- or 6-membered carbocycle,
- 20 R²⁶ represents hydrogen, cyano, halogen, or represents C₁-C₄-alkyl, C₃-C₆-cycloalkyl or phenyl, each of which is optionally substituted by fluorine, chlorine and/or bromine,
- R²⁷ represents hydrogen, or represents C₁-C₆-alkyl, C₃-C₆-cycloalkyl or tri(C₁-C₄-alkyl)silyl, optionally substituted by hydroxyl, cyano, halogen or C₁-C₄-alkoxy,
- 25 R²⁸ represents hydrogen, cyano, halogen, or represents C₁-C₄-alkyl, C₃-C₆-cycloalkyl or phenyl, each of which is optionally substituted by fluorine, chlorine and/or bromine,
- X¹ represents nitro, cyano, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy,

X^2 represents hydrogen, cyano, nitro, halogen, C_1 - C_4 -alkyl, C_1 - C_4 -haloalkyl, C_1 - C_4 -alkoxy or C_1 - C_4 -haloalkoxy,

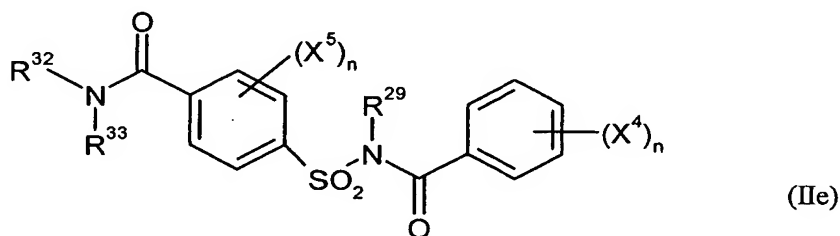
X^3 represents hydrogen, cyano, nitro, halogen, C_1 - C_4 -alkyl, C_1 - C_4 -haloalkyl, C_1 - C_4 -alkoxy or C_1 - C_4 -haloalkoxy,

5 and/or the following compounds (defined by general formulae)

of the general formula (IIId)



or of the general formula (IIe)



10 where

n represents a number of between 0 and 5,

R^{29} represents hydrogen or C_1 - C_4 -alkyl,

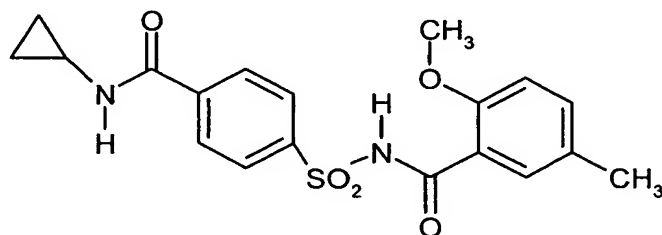
R^{30} represents hydrogen or C_1 - C_4 -alkyl,

15 R^{31} represents hydrogen, or represents C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkylthio, C_1 - C_6 -alkylamino or di- $(C_1$ - C_4 -alkyl)amino, each of which is optionally substituted by cyano, halogen or C_1 - C_4 -alkoxy, or represents C_3 - C_6 -cycloalkyl, C_3 - C_6 -cycloalkyloxy, C_3 - C_6 -cycloalkylthio or C_3 - C_6 -cycloalkylamino, each of which is optionally substituted by cyano, halogen or C_1 - C_4 -alkyl,

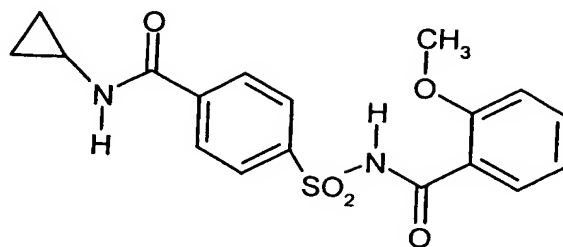
- 5 R^{32} represents hydrogen, or represents C_1 - C_6 -alkyl which is optionally substituted by cyano, hydroxyl, halogen or C_1 - C_4 -alkoxy, or represents C_3 - C_6 -alkenyl or C_3 - C_6 -alkynyl, each of which is optionally substituted by cyano or halogen, or represents C_3 - C_6 -cycloalkyl which is optionally substituted by cyano, halogen or C_1 - C_4 -alkyl,
- 10 R^{33} represents hydrogen, or represents C_1 - C_6 -alkyl which is optionally substituted by cyano, hydroxyl, halogen or C_1 - C_4 -alkoxy, or represents C_3 - C_6 -alkenyl or C_3 - C_6 -alkynyl, each of which is optionally substituted by cyano or halogen, or represents C_3 - C_6 -cycloalkyl which is optionally substituted by cyano, halogen or C_1 - C_4 -alkyl, or represents phenyl which is optionally substituted by nitro, cyano, halogen, C_1 - C_4 -alkyl, C_1 - C_4 -haloalkyl, C_1 - C_4 -alkoxy or C_1 - C_4 -haloalkoxy, or together with R^{32} represents C_2 - C_6 -alkanediyl or C_2 - C_5 -oxaalkanediyl, each of which is optionally substituted by C_1 - C_4 -alkyl,
- 15 X^4 represents nitro, cyano, carboxyl, carbamoyl, formyl, sulphamoyl, hydroxyl, amino, halogen, C_1 - C_4 -alkyl, C_1 - C_4 -haloalkyl, C_1 - C_4 -alkoxy or C_1 - C_4 -haloalkoxy, and
- 20 X^5 represents nitro, cyano, carboxyl, carbamoyl, formyl, sulphamoyl, hydroxyl, amino, halogen, C_1 - C_4 -alkyl, C_1 - C_4 -haloalkyl, C_1 - C_4 -alkoxy or C_1 - C_4 -haloalkoxy.

31. Composition according to Claim 30, in which the compound which improves crop plant tolerance is selected from the following group of compounds:

cloquintocet-mexyl, fenclorazole-ethyl, isoxadifen-ethyl, mefenpyr-diethyl, furilazole, fenclorim, cumyluron, dymron or the compounds



and



32. Compositions according to Claim 30 or 31 in which the compound which improves crop plant tolerance is cloquintocet-mexyl or mefenpyr-diethyl.
- 5 33. Method for controlling unwanted vegetation, characterized in that a composition according to Claim 30 is allowed to act on the plants or their habitat.
34. Use of a composition according to Claim 30 for controlling unwanted vegetation.
35. Method for controlling unwanted vegetation, characterized in that a compound of the formula (I) according to Claim 30 and the compound which improves crop plant tolerance according to Claim 1 are allowed to act separately within a short interval on the plants or their habitat.
- 10